



SCIENCE

6

FOR FAMILIES

YOU ARE your child's first teacher. Learn how to support the goals of Oklahoma's academic standards and why they are important for your child. Please be in regular communication with your child's teachers and ask how you can support science learning at home. When schools and families work together as partners, it helps your child achieve academic excellence!

SIXTH GRADE

What to expect:

In sixth grade, students will build on ideas and knowledge from earlier grades to learn about the physical sciences, life sciences, earth science and space science. With coaching from teachers, they will use core science ideas and scientific and engineering practices to understand and explain observations in the physical, life, earth and space sciences.

By the end of the school year, your child will:

- Describe changes in the motion of particles of a substance when thermal energy is added or removed.
- Determine the factors that affect the strength of electric and magnetic forces.
- Provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.
- Use graphs to describe the relationships of kinetic (in-motion) energy to the mass (amount of matter) of an object and its speed.
- Understand what impacts the kinetic energy of particles.
- Develop a model to describe the function and parts of a cell.
- Understand that the body is a system of interactive subsystems made up of cells.
- Explain the role of photosynthesis in plants and other organisms and their growth.
- Understand how available resources affect organisms.
- Predict patterns of interactions among organisms across multiple ecosystems.
- Develop a model to describe how matter and energy cycle through an ecosystem.
- Describe how water cycles through Earth's systems with energy from the sun and the force of gravity.

What to do at home:

- Ask your child to draw how water particles may be interacting with each other in ice versus in water.
- Discuss why some cups keep drinks hotter or colder than other cups.
- Discuss why the grass might turn brown during drier months and why grass needs to be mowed after it has rained for several days.
- Find a puddle outside, then go back after the sun has come out and ask your child to explain what happened to the puddle.
- Visit a theme park and ride or watch a roller coaster. Discuss why sometimes the roller coaster moves faster and other times more slowly.



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Fostering Curiosity

Children are naturally curious and want to learn about things that interest them. Since curiosity contributes to success in the classroom, it is important to encourage it at home. Provide opportunities for your child to ask questions, be creative, discover answers and explore the world.

Cultivate your child's curiosity with guiding questions like these:

- If you could invent something that would make life easier for people, what would you invent and why?
- What kind of container would keep your coffee the hottest for the longest period of time?
- What would the world's fastest runners look like in slow motion?
- Tell me something about science you don't think I already know.

Your child will have plenty of questions. It's okay if you don't have the answer every time. The best response is always, "Let's find out together."

Fostering Communication

Families can play a role in helping their children learn to be good communicators by encouraging them to add new words to their vocabulary, express themselves and be good listeners. As children's communication skills grow, they are able to learn new ideas, get along with others and develop positive relationships and a strong self-image.

Cultivate your child's communication skills with questions like these:

- What goals can you set to help you become a better person?
- What is your favorite part of the year and why?
- How can you make a positive difference for someone today?

Fostering Comprehension

Reading is a building block for success in all school subjects and a critical skill that develops with time and practice. Encourage your child to read for pleasure, and be a good role model by reading things you enjoy. Use the following questions to help sixth-graders understand what they are reading.

BEFORE READING

- Are you keeping a list of books you have already read? Why would it be good to keep a list like that?
- How is this book like another book you have read or a movie you have seen?
- Why did you pick this book?

DURING READING

- As you are reading, what questions do you have for the author?
- How does this book remind you of a book you have already read or something you already know?
- What resources can you use to understand words you aren't familiar with?

AFTER READING

- How did the setting of the story affect the characters and plot?
- What was the theme of the book? What lesson do you think the author wanted the reader to learn?
- How would you rewrite the ending to the story? Why would you change it?

Join the conversation!
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